Patent Claims

1. A profiled rail (**1**) for a suspension device having carriers (**6**,**8**) which can be plugged into the profiled rail (**1**) and on which articles can be suspended or set down, the profiled rail (**1**) being intended for fastening horizontally on a carrying structure (**9**), by way of a passage (**10**) which extends into the profiled rail (**1**), in principle horizontally, from a front entry point (**100**), characterized in that

a) arranged within the profiled rail (**1**) is a conductor rail (**2**) with current conductors (**24**,**27**) which is supplied with electricity via a power supply (**3**);

b) the current conductors (**24**,**27**) are accessible from the passage (**10**) for the purpose of tapping electricity for supplying a consuming unit (**7**) which can be connected via a feed line (**46**).

2. The profiled rail as claimed in claim 1, characterized in that

a) the conductor rail (**2**) comprises an insulating profile (**20**) and current conductors (**24**,**27**) which are accommodated in wire channels (**23**,**25**) and can be tapped via access points (**23**,**26**) at least more or less over the entire axial extent of the current conductors (**24**,**27**) and in an at least largely uninterrupted manner; and

b) the conductor rail (**2**) is arranged in a current-conducting groove (**15**) which extends from the passage (**10**).

3. The profiled rail as claimed in claim 1 or 2, characterized in that

a) the insulating profile (**20**) of the conductor rail (**2**) has outer contours (**21**) which fit into complementary inner contours on the current-conducting groove (**15**);

b) the current-conducting groove (**15**) is arranged, remote from the entry point (**100**), in the depth of the passage (**10**) and, in principle, perpendicularly to the latter; and

c) the access points (**23**,**26**) open, in principle, perpendicularly to the passage (**10**).

4. The profiled rail as claimed in claim 3, characterized in that

a) the insulating profile (**20**) has an M-shaped cross section in principle;

b) the two access points (**23**,**26**) are each located at the bottom within the side legs of the M-shaped cross section;

c) the wire channels (**22**,**25**) with the current conductors (**24**,**27**) provided therein are each located at the top within the side legs, in the profile tips; and

d) the current conductors (**24**,**27**) can be tapped by an adapter (**4**) which can be pushed into the passage (**10**).

5. The profiled rail as claimed in one of claims 1 to 4, characterized in that

a) the end of the passage (**10**) is defined by a base plate (**11**);

b) the base plate (**11**) has a top extension (**110**) extending upward and a bottom extension (**113**) extending downward, beyond the region of the incoming passage (**10**);

c) adjacent to the base plate (**11**), a hook groove (**16**) extends upward, and an arresting groove (**17**) extends downwards, out of the passage (**10**).

6. The profiled rail as claimed in one of claims 1 to 5, characterized in that the passage (**10**) is bounded at the top by a top strut (**13**) and at the bottom by a bottom strut (**12**) and has:

a) at the top, a slope which slopes upward in the direction of the entry point (**110**) and thus forms a top clearance (**101**),

b) at the bottom, an inclination which is inclined downward in the direction of the base plate (**11**) and thus forms a bottom clearance (**102**),

c) in the bottom strut (**12**), in the vicinity of the entry point (**100**), a strip groove (**18**) for accommodating a non-slip and damping, preferably elastic extruded profile (**180**); and

d) at the end of the passage (**10**), an axially accessible raised molding (**103**), extending along the profiled rail (**1**), for tapping the ground contact (**44**) of the adapter (**4**).

7. The profiled rail as claimed in one of claims 1 to 6, characterized in that the profiled rail (**1**), furthermore, has:

a) a supporting strut (**14**) which extends from the bottom strut (**12**), opens out into the bottom extension (**113**) and encloses a cavity (**114**) with the bottom strut (**12**);

b) on the top strut (**13**), a downwardly extending tongue (**130**) with a tongue groove (**131**) located alongside it;

c) on the bottom strut (**12**), a downwardly extending tongue (**120**) with a tongue groove (**121**) located alongside it;

d) in each case one screw-connection channel (**115**,**111**) in the region of a supporting strut (**14**) extends from the bottom strut (**12**) and in the region where the top strut (**13**) opens out into the base plate (**11**);

e) on the top extension (**110**), a notched line (**112**), preferably on both sides, has a marking;

f) the tongue strips (**120**,**130**) are intended for being accommodated in tongue grooves (**920**) which are present in the edges of attached panels (**9**);

g) the notched lines (**112**) serve as an orientation means for screw holes which may optionally be provided, and can be utilized in order for the construction comprising the carrying structure (**9**) with one or more profiled rails (**1**) introduced to be fastened directly or indirectly on a part of a building.

8. The profiled rail as claimed in one of claims 1 to 7, characterized in that the power supply (**3**) is formed by:

a) a cutout (**19**) on the profiled rail (**1**), into which a connection terminal (**30**) is inserted;

b) a plug coupling (**31**) comprising a bushing (**33**), which is positioned in the cutout (**19**) alongside the connection terminal (**30**), and a plug (**32**), which can be coupled to the bushing (**33**) from the outside and to which the current-supplying feed line (**320**) is connected; and

c) a ground terminal (**34**) on the profiled rail (**1**).

9. The profiled rail as claimed in one of claims 1 to 8, characterized in that the carrier (**8**,**6**):

a) as carrying arm (**8**) has at the plug-in end (**801**) of the bar part (**80**), at least one tongue element (**81**) which can be plugged into the passage (**10**) of the profiled rail (**1**) and has a bottom tapered portion (**83**) and an upwardly directed hook (**82**) which is intended for engaging in the hook groove (**16**); or

b) the carrier (**6**) is in the form of a shelf of which the rear edge (**60**) can be plugged into the passage (**10**) of the profiled rail (**1**).

10. The profiled rail as claimed in one of claims 1 to 9, characterized in that the adapter (**4**) can be pushed separately into the passage (**10**) for power take-off or, inserted into an aperture (**61**) of a shelf (**6**), can be pushed into the passage (**10**) together with the shelf (**6**).

11. The profiled rail as claimed in one of claims 1 to 10, characterized in that the adapter (**4**) comprises:

a) a rotatable pin (**410**);

b) on the input side:

ba) contact lugs (**42**,**43**) which can be pivoted on the rotatable pin (**410**) and are intended for power take-off from the current conductors (**24**,**27**); and

bb) a tap (**44**) for the grounding conductor; and

c) on the output side:

ca) line connections (**420**,**430**) and a ground-contact connection (**440**), which are connected to a feed line (**46**) to a consuming unit (**7**).

12. The profiled rail as claimed in one of claims 1 to 11, characterized in that the adapter (**4**) also comprises:

a) a housing (**40**) with a bottom plate (**400**), a cover (**401**), an output connector (**402**) and an optional plate groove (**403**) in the housing (**40**) for insertion into the aperture (**61**) of a shelf (**6**), the output connector (**402**) merging into a conduit (**460**) for further cable routing to the consuming unit (**7**);

b) a rotary knob (**41**), which is accessible to the user and is connected to the pin (**410**);

c) a pin bearing (**411**) in the housing (**40**), and an inhibiter (**412**) acting on the pin (**410**); and

d) a catch (**45**), which is seated on the pin (**410**) and, in the connected state, when the contact lugs (**42,43**) butt against the current conductors (**24,27**) engages at least in one of the grooves (**16,17**); it being the case that

e) the catch (**45**), in the disconnected state, is disengaged, with the result that the adapter (**4**) can be pushed into the passage (**10**) or drawn out of the passage (**10**).

13. An adapter (**4**), in particular for use with a profiled rail (**1**) as claimed in one of claims 1 to 9, characterized in that the adapter (**4**) comprises:

a) a rotatable pin (**410**);

b) on the input side:

ba) contact lugs (**42,43**) which can be pivoted on the rotatable pin (**410**) and are intended for power take-off from the current conductors (**24,27**) of a conductor rail (**2**) arranged in a profiled rail (**1**); and

bb) a tap (**44**) for the grounding conductor (**103**) of the profiled rail (**1**); and

c) on the output side:

ca) line connections (**420,430**) and a ground-contact connection (**440**), which are connected to a feed line (**46**) to a consuming unit (**7**).

14. The adapter (**4**) as claimed in claim 13, characterized in that the adapter (**4**) also comprises:

a) a housing (**40**) with a bottom plate (**400**), a cover (**401**), an output connector (**402**) and an optional plate groove (**403**) in the housing (**40**) for insertion into the aperture (**61**) of a shelf (**6**), the output connector (**402**) merging into a conduit (**460**) for further cable routing to the consuming unit (**7**);

b) a rotary knob (**41**), which is accessible to the user and is connected to the pin (**410**);

c) a pin bearing (**411**) in the housing (**40**), and an inhibiter (**412**) acting on the pin (**410**); and

d) a catch (**45**), which is seated on the pin (**410**) and, in the connected state, when the contact lugs (**42**,**43**) butt against the current conductors (**24**,**27**) engages at least in one of the grooves (**16**,**17**); it being the case that

e) the catch (**45**), in the disconnected state, is disengaged, with the result that the adapter (**4**) can be pushed into the passage (**10**) or drawn out of the passage (**10**).